

THE ANNALS

AND

MAGAZINE OF NATURAL HISTORY.

[SIXTH SERIES.]

No. 90. JUNE 1895.

LV.—*On some new and rare Crustacea from Scotland.* By THOMAS SCOTT, F.L.S., Naturalist to the Fishery Board for Scotland, and ANDREW SCOTT, Fisheries Assistant, University College, Liverpool.

[Plates XVI. & XVII.]

Attheyella MacAndrewæ, sp. n.
(Pl. XVI. figs. 1–6.)

Description of the Species.—*Female.* Length .58 millim. ($\frac{1}{43}$ of an inch). In general appearance this species somewhat resembles *Attheyella pygmæa*, but is rather smaller and less hirsute. Antennules moderately stout and eight-jointed, the end-joint being distinctly more elongate than any of the others; the first four joints are also stouter than the last four (fig. 2). The proportional lengths of the various joints are nearly as follows:—

Proportional lengths of the joints..	9	9	9	6	6	7	6	11
Number of the joints	1	2	3	4	5	6	7	8

The secondary branches of the antennæ are two-jointed and the end-joint is only about half the length of the other. The second joint of the posterior foot-jaws has the inner margin fringed with short stout setæ arranged in a pectinate manner; there is also a short stout seta on the inner distal angle of the first joint, which is plumose on one side (fig. 3). In the first pair of swimming-feet the end-joint of the two-jointed inner

branches is considerably shorter than the first joint, being only about two thirds the length of it; the end-joint is also narrower than the other; both the branches of the first pair are short and are of nearly equal length (fig. 4). The inner branches of the next three pairs of swimming-feet, which are also two-jointed, are very short, being not much longer than the first joint of the outer branches; the outer branches, on the other hand, are elongate and robust, and consist of three nearly equal joints, as shown by the drawing (fig. 4). In the fifth pair the inner produced portion of the basal joint is subcylindrical, rather longer than broad, and furnished with four stout coarsely plumose setæ and two smaller hairs, arranged thus—the two small hairs are on the outer margin, two of the larger plumose setæ spring from the apex, and the other two are subterminal, one on each side of the apical setæ: the secondary joint is in form somewhat like that of the produced part of the basal joint, but rather broader; it is furnished with a stout, elongate, and coarsely plumose apical seta, in addition to which there is interiorly a smaller subterminal seta, also plumose, and three small plain setæ exteriorly—that is, on the distal half of the outer margin, as shown in the drawing (fig. 6). Caudal stylets short, narrow, and having a wide space between them; each stylet is provided with a stout, very long, and coarsely plumose apical seta articulated near the base; there is also a smaller apical seta, the basal part of which forms a stout conical enlargement.

Habitat. Lochan a Chaite, on the south-east shoulder of Ben Lawers, Perthshire, altitude 2400 feet above the sea-level; specimens not very common.

Remarks. The characters by which the species is distinguished are the structure of the antennules, the armature of the posterior foot-jaws, and, especially, the structure of the first and fifth pairs of thoracic feet. The short end-joints of the inner branches of the first pair form so marked a character, that by them alone we had no difficulty in distinguishing specimens of this species from among others of the same genus by the use of an ordinary hand-lens.

The name we give to this species is the maiden surname of her who, as wife and mother, has, by a lifelong self-denial and ever-ready sympathy, enabled us to overcome difficulties in the course of our natural history studies that would otherwise have been well nigh insurmountable, and whose native home in the beautiful valley of Strathtay is but a few miles from the famous mountain on whose giant shoulder rests the little loch in which the species was found.

Canthocamptus palustris, var. *elongatus*, var. n.
(Pl. XVI. figs. 7-17.)

Description of the Variety.—Female. Length .7 millim. ($\frac{1}{36}$ of an inch). Body elongate and slender. Antennules eight-jointed; the second, fourth, and last joints are subequal and longer than the other joints, but the seventh joint is considerably shorter than any of the others; the formula shows the proportional lengths of the joints very nearly—

Proportional lengths of the joints..	9	12	7	11	7	8	5	10
Number of the joints	1	2	3	4	5	6	7	8

Antennæ moderately stout, three-jointed; the first joint is short, the second and third are longer and nearly equal in length; secondary branch small, one-jointed (fig. 9). Mandibles slender and provided with a small two-jointed palp (fig. 10). Posterior foot-jaws moderately stout; a small seta springs from the inner distal angle of the first joint, and another from the margin of the second joint near the distal end; terminal claw about equal in length to the second joint (fig. 11). Both branches of the first pair of swimming-feet are short and of nearly equal length, and are both three-jointed; the inner, which is slightly the longer branch, has the second and third joints short and subequal, their combined length being only a little more than two thirds of the length of the first joint, which is also considerably stouter; the joints of the outer branch are moderately stout and gradually increase in length from the basal joint (fig. 12). The second, third, and fourth pairs are more elongate than the first, and the inner branches are all three-jointed and considerably shorter than the outer branches; the first joint of the inner branches is also much shorter than the second and third joints (fig. 13). Fifth pair broadly foliaceous; the produced inner portion of the basal joint is shorter than the secondary joint and broadly rounded at the end, where it carries five slender setæ, having a somewhat pectinate arrangement; the two outermost setæ are much longer than the others and plumose; the secondary joint is subrotundate, but somewhat longer than broad, and furnished with five long slender hairs (fig. 14). Caudal stylets very short (fig. 17). The abdomen is only sparingly hirsute, and the ovisac is large.

Male. The male resembles the female very closely except in the antennules and fifth pair of feet; the antennules are elongate, nine-jointed, and strongly hinged. In the fifth pair of thoracic feet the inner portion of the basal joint is scarcely produced and broadly rounded, and bears three terminal and

slender subequal spines (fig. 15); the secondary branch is somewhat subcylindrical, the breadth is about two thirds of the length, and it is furnished with two setæ on the inner margin and four on the truncate apex (fig. 15). Spermatophore large.

Habitat. Pools above high-water mark near the head of West Loch Tarbert, Argyleshire; not very common.

Remarks. There seems to be little doubt that this is a variety of *Canthocamptus palustris*, Brady; it agrees with that species in several of its more important characters, such as the general structure of the antennules and of the first and fifth thoracic feet of the female; the second, third, and fourth pairs of thoracic feet are also similar to those of that species. The chief differences, on the other hand, are these:—(1) the secondary branches of the antennæ of this variety are only one-, instead of two-jointed; (2) the proportionally shorter second and third joints of the inner branches of the first thoracic feet; and (3) the structure of the fifth pair in the male. In the male fifth pair the secondary joint is comparatively large, being elongate and subcylindrical.

Laophonte propinqua, sp. n. (Pl. XVII. figs. 1–9.)

Description of the Species.—*Female.* Length .72 millim. (about $\frac{1}{35}$ of an inch). Body elongate, depressed; rostrum broad and with a minute seta on each side of the bifid apex (fig. 2). Antennules seven-jointed; the second and third joints are considerably longer than the others, and the second joint is also dilated and armed with a strong conical tooth on the external aspect (fig. 3). The proportional lengths of all the joints are nearly as follows:—

Proportional lengths of the joints..	17	22	23	6	5	7	11
Number of the joints	1	2	3	4	5	6	7

Antennæ strong; both the first and second joints are fringed with small setæ on the inner edge; secondary branch small, one-jointed (fig. 4). The second joint of the posterior foot-jaws is somewhat dilated and bears a powerful terminal claw. The inner branches of the first pair of swimming-feet are very strong; the first joint is of considerable length, being five times longer than broad; but the second is very short and is armed with a strong claw; the outer branches are slender, three-jointed, and about half the length of the first joint of the inner branches; the second basal joint is also densely hirsute, as shown by the drawing (fig. 6). The second pair

are slender; the outer branches are elongate and strongly spiniferous; the second joint is rather shorter than the first and only two thirds the length of the last joint; the two-jointed inner branch does not reach to the end of the second joint of the outer branch; the first joint is rather stouter than, but little more than half the length of, the second joint; the second joint bears four setæ—the two apical and one of the marginal are very long, but the other is short (fig. 7). The third and fourth pairs are also slender and with short inner branches; in the fourth pair the first joint of the inner branches, which only reach to about the middle of the second joint of the outer branches, is so short as to be almost rudimentary (fig. 8). In the fifth pair the inner produced portion of the basal joint is somewhat cone-shaped and bears three moderately long and stout plumose setæ on the inner margin and two smaller setæ at the apex; the apex of the basal joint only reaches to about half the length of the secondary joint; the secondary branch is elongate-ovate in form, being nearly three times longer than broad; the apex is lengthened into a narrow process, from the end of which springs a moderately long seta; on each side of this there is a subapical seta, also of moderate length, while three other setæ spring from the distal half of the outer margin (fig. 9). Caudal stylets narrow and about equal in length to the last abdominal segment.

Habitat. Port Erin, Isle of Man; and near the mouth of the River Alness, Cromarty Firth; rather rare.

Remarks. This *Laophonte* has a superficial resemblance to *L. denticornis*, T. Scott, but on closer examination it was found to differ very markedly, not only from that species, but from any other *Laophonte* known to us.

Idya longicornis, sp. n. (Pl. XVII. figs. 10-17.)

Description of the Species.—*Female.* Length 1·7 millim. ($\frac{1}{15}$ of an inch). This form resembles *Idya furcata*, Philippi, in general appearance, but is larger. The antennules, which are eight-jointed, are very long and slender; the first four joints are elongate, especially the third and fourth, which are nearly of equally length, the fourth being slightly longer than the other; it is also longer than all the last four taken together. The formula shows the proportional lengths of all the joints—

Proportional lengths of the joints. . .	30	40	45	47	7	10	8	18
Number of the joints	1	2	3	4	5	6	7	8

The antennules are sparingly setiferous, and the long somewhat slender filament springs from the end of the fourth joint (fig. 11). The antennæ are slender, and the first and second joints are each provided with one seta, while the last bears a few setæ at the apex (fig. 12). The mouth-organs are somewhat similar to those of *Idya furcata*, but the posterior foot-jaws have the terminal claws void of supplementary setæ (fig. 13). The swimming-feet are also somewhat similar to those of *Idya furcata*, but the second joint of the outer branches of the first pair is about twice the length of the first joint, and the spine which springs from the outer distal angle of the first joint is comparatively slender (fig. 14). The fifth pair are also more elongate than those of *Idya furcata*, being fully four times longer than broad (fig. 17).

Habitat. East Loch Tarbert, Loch Fyne. Several specimens of this species were taken with the dredge in 5 to 6 fathoms water in February 1886, but have not been previously recorded.

Remarks. *Idya longicornis* is easily recognized, not only by its larger size, but also and especially by the length and structure of the antennules. The proportional lengths of the joints of the outer branches of the first pair of swimming-feet and the elongate fifth pair also serve to distinguish this from any other British form of *Idya*. Though this *Idya* is the largest form of the genus with which we are familiar, the armature of the first pair of swimming-feet is not so powerful as that of the first pair in *Idya furcata*, a much smaller species. We are not altogether unfamiliar with the liability of *Ioya furcata* to variation, and also with the observations of several eminent naturalists on this liability to variation in *Idya furcata*; but we have seen no explanation that could account for the great differences between *Idya furcata* and the species we have now described on the principal of local variation, for both forms were taken together by the dredge on the same ground and at the same time. Had the two forms been taken in different localities hundreds of miles apart, there might have been some reasonableness in considering them merely as varieties of the one species; but, taken as they were, under similar conditions of time and place, we can only judge of the differences between them as we judge of the differences between forms belonging to other genera.

ADDITIONAL NOTES.

An interesting addition to the freshwater Crustacea of Scotland has only lately been obtained, viz. *Ophiocamptus*

(*Canthocamptus brevipes*, G. O. Sars. It was discovered in some hand-net gatherings from Loch Lubnaig, Perthshire, collected in September last. A description, with drawings, of it will be published in the 'Thirteenth Annual Report of the Fishery Board for Scotland.'

PSEUDOTHALESTRIS, G. S. Brady.

Pseudothalestris, G. S. Brady, Report on the 'Challenger' Copepoda, p. 100, pl. xlii. figs. 1-8 (1883).

In the Report on the 'Challenger' Copepoda Dr. Brady has described a new genus of the Harpacticidæ under the above name. He had only a single specimen (a male), which he describes as being like *Thalestris*; its characters were so marked, as to be of generic rank. This Copepod was obtained by Dr. Brady in a gathering from Betsy Cove, Kerguelen Island (lat. 49° 16' S., long. 70° 12' E.).

Last year one of the authors of this paper instituted a new genus—*Pseudowestwoodia*—for the reception of a Copepod that closely resembled *Westwoodia nobilis* (Baird) in general appearance, but differed in some important structural details. The genus *Pseudowestwoodia* was described, with illustrative drawings, in the 'Twelfth Annual Report of the Fishery Board for Scotland,' published last year. Descriptions of other two species of the same genus were published by us in the 'Annals and Magazine of Natural History' for January last.

A short time ago, when looking over the Report on the 'Challenger' Copepoda, we happened to observe a certain resemblance between Dr. Brady's *Pseudothalestris* and our *Pseudowestwoodia*; a careful study of the two was then made, with the result that we believe them to be identical. It is unfortunate that Dr. Brady had only a single specimen (and a male) to describe from; had it been a female, the identity of the two genera would no doubt have been more clearly established. Though our name—*Pseudowestwoodia*—is more in accord with the general form of the British species of the genus, there can be no question as to the priority of *Pseudothalestris*.

It is surely of much interest to find in this little group of Copepoda another instance of the remarkably close similarity between organisms living on opposite sides of the globe.

EXPLANATION OF THE PLATES.

PLATE XVI.

Attheyella MacAndrewæ, sp. n.

Fig. 1. Female, seen from the side, $\times 80$. 2. Antennule, $\times 380$. 3. Posterior foot-jaw, $\times 506$. 4. Foot of first pair of swimming-feet, $\times 380$. 5. Foot of fourth pair, $\times 380$. 6. Foot of fifth pair, $\times 380$.

Canthocamptus palustris, var. *elongatus*, var. n.

Fig. 7. Female, seen from the side, $\times 80$. 8. Antennule, $\times 169$. 9. Antenna, $\times 266$. 10. Mandible, $\times 380$. 11. Posterior foot-jaw, $\times 400$. 12. Foot of first pair, $\times 200$. 13. Foot of fourth pair, $\times 133$. 14. Foot of fifth pair, female, $\times 266$. 15. Foot of fifth pair, male, $\times 253$. 16. Spermatophore, $\times 380$. 17. Last two abdominal segments and caudal stylets, $\times 190$.

PLATE XVII.

Laophonte propinqua, sp. n.

Fig. 1. Female. dorsal view, $\times 64$. 2. Rostrum, $\times 380$. 3. Antennule, $\times 300$. 4. Antenna, $\times 253$. 5. Posterior foot-jaw, $\times 253$. 6. Foot of first pair of swimming-feet, $\times 253$. 7. Foot of second pair, $\times 253$. 8. Foot of fourth pair, $\times 169$. 9. Foot of fifth pair, $\times 253$.

Idya longicornis, sp. n.

Fig. 10. Female, dorsal view, $\times 24$. 11. Antennule, $\times 66$. 12. Antenna, $\times 100$. 13. Posterior foot-jaw, $\times 130$. 14. Foot of first pair of swimming-feet, $\times 66$. 15. Foot of third pair, $\times 66$. 16. Foot of fourth pair, $\times 66$. 17. Foot of fifth pair, $\times 130$.

LVI.—*The Amphipoda of Bate and Westwood's 'British Sessile-eyed Crustacea.'* By ALFRED O. WALKER.

IN February 1892 I published in this Magazine a paper on the Lysianassides of Bate and Westwood's 'British Sessile-eyed Crustacea,' in which I endeavoured to bring them into line with Prof. G. O. Sars's Amphipoda of Norway by an examination of the collection of Bate's types in the British Museum. Since then Sars's work has been completed so far as the Amphipoda are concerned, and as, from the extreme care and accuracy with which the species (a very large proportion of which have been found on our own coasts) are described and figured, it is likely to become the standard work on this order of Crustacea, I have throughout adopted its nomenclature. I am aware that another work—important in size,